TEST REPORT OF AGGEGRATE IMPACT VALUE
IS: 2386 Part IV

Lab ID	:	**CP-RW-2017-07-13-01** **Date: 15-07-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting of Roads and Drains at Santhosh Nagara in Ward No.03
Agency	:	Technical Manager (west), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/85/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	13-07-2017
Sample ID No	:	2017-07-13-01/01
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	13-07-2017

Sl.No	Particulars of observations	Index	TEST 1	TEST 2
1	Total weight of the surface dry sample sample (passing 12.5 mm and retained on 10mm sieve)	A	300.2	300.2
2	Weight of fraction passing 2.36mm sieve After giving 15 blows	B	73.8	74.0
3	weight of fraction retained 2.36mm sieve After giving 15 blows	C	225.5	225.7
4	Total weight of (B+C) is less than the initial weight (Weight A) by more than one gram the result shall be discarded and a fresh test made.	A-(B+C)	0.9	0.5
5	Aggregate impact value	(B/A)*100	24.6	24.7
6	Aggregate impact value (Mean of two tests)	Pecentage	24.6	

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FOR CIVIL Pro.
R.KARTHIK RECHAN
Authorized Signatory
Quality Manager

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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Certificate No.: TC-5548

DETERMINATION OF FLAKINESS INDEX AND ELONGATION INDEX OF COARSE AGGREGATE(IS 2386 (Part 1) 1963 (RA 2007)

Lab ID	:	**CP-RW-2017-07-13-01** **Date: 15-07-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting of Roads and Drains at Santhosh Nagara in Ward No.03
Agency	:	Technical Manager (west), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/85/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	13-07-2017
Sample ID No	:	2017-07-13-01/01
Type of Mix	:	Coarse Aggregate for WMM (Wet Mix Macadam)
Date of test	:	13-07-2017

Result:

Index	Percentage of Flakiness and Elongation Index	Secified limits as per MORTH specification table 400-12
Flakiness Index	11.8%	Combined Flakiness & Elongation Index for WMM is Maximum 35%
Elongation Index	11.2%	
Combined Flakiness and Elongation Index for WMM	23.0%	

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST RESULTS OF GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2017-07-19-01**	**Date: 21-07-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore.	
Address	:	Yelahanka Satellite Town Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements and Asphalting of Roads and Drains at Santhosh Nagara in Ward No.03	
Agency	:	Technical Manager (west), KRIDL, BBMP, Bangalore.	
Customer Reference	:	BBMP/EE(YNK.D)/W.O/85/2017-18	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	19-07-2017	
Sample ID No	:	2017-07-19-01/01	
Type of Mix	:	DBM-Plant (Dense Bituminous Macadam)	
Date of test	:	19-07-2017	
Weight of Sample	:	5000 Grams	

IS Sieve Size (mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10 (grading -2)
37.5	0	0	0	100	100
26.5	172	172	3.44	96.56	90-100
19	1013	1185	23.70	76.30	71-95
13.2	520	1705	34.10	65.90	56-80
4.75	1150	2855	57.10	42.90	38-54
2.36	690	3545	70.90	29.10	28-42
0.3	1094	4639	92.78	7.22	7-21
0.075	252	4891	97.82	2.18	2-8
PAN	109	5000	0.00	0	0

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

End of Report

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com
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Certificate No.: TC-5548

PHYSICAL REQUIREMENTS FOR COARSE AGGREGATE FOR DENSE BITUMINOUS MACADAM

Lab ID	:	**CP-RW-2017-07-19-01** **Date: 22-07-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting of Roads and Drains at Santhosh Nagara in Ward No.03
Agency	:	Technical Manager (west), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/85/2017-18
Source of Sample	:	Sample supplied by Agency
Sample Condition	:	Satisfactory
Date of Receipt	:	19-07-2017
Sample ID No	:	2017-07-19-01/01
Type of Mix	:	DBM (Dense Bituminous Macadam)
Date of test	:	19-07-2017

Table 500-6 : Physical Requirements fo Coarse Aggregate for Dense Bituminous Macadam

Property	Test	Result	Specification	Method of Test
Partical Shape	Flakiness Index	13.4	Combined Flakiness & Elongation Index for DBM is Maximum 35%	IS:2386 Part I
	Elongation Index	12.6		
Strength	Aggregate Impact Value	24.5	Maximum 30%	IS:2386 Part IV
Specific gravity	Specific gravity	2.69	Maximum 2.7	IS:2386 Part III
Water Absorption	Water Absorption	0.23	Maximum 2%	IS:2386 Part III

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R KARTHIK RECHAN
Authorized Signatory
Quallity Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TEST REPORT OF AGGEGRATE STRIPPING VALUE OF ROAD AGGRGATE (IS:6241)

Lab ID	:	**CP-RW-2017-07-19-01**	**Date: 22-07-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore.	
Address	:	Yelahanka Satellite Town Sub Division, BBMP, Bangalore.	
Project Name	:	Improvements and Asphalting of Roads and Drains at Santhosh Nagara in Ward No.03	
Agency	:	Technical Manager (west), KRIDL, BBMP, Bangalore.	
Customer Reference	:	BBMP/EE(YNK.D)/W.O/85/2017-18	
Source of Sample	:	Sample supplied by Agency	
Sample Condition	:	Satisfactory	
Date of Receipt	:	19-07-2017	
Sample ID No	:	2017-07-19-01/01	
Type of Mix	:	DBM(Dense Bitumnous Macadam)	
Date of test	:	19-07-2017	

Type of Binder	:	60/70
% of Binder Used	:	5.0%
Weight of Aggregate	:	200.0 gm
Weight of Binder	:	10.0 gm
Temperature of water bath	:	40°C

No of test	Retained Stripping Percentage	Stripping Percentage	Average Retained Stripping Percentage	Secified limits as per MORTH specification table 500-8
1	98.0	2.0	98.2	Minimum Retained Coating 95%
2	98.5	1.5		
3	98.0	2.0		

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com

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TESTS RESULTS ON STABILITY OF MIX

Lab ID	:	**CP-RW-2017-07-19-01** **Date: 22-07-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting of Roads and Drains at Santhosh Nagara in Ward No.03
Agency	:	Technical Manager (west), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/85/2017-18
Source of Sample	:	Hot Mix Plant, Bangalore
Sample Condition	:	Satisfactory
Date of Receipt	:	19-07-2017
Sample ID No	:	2017-07-19-01/01
Type of Mix	:	DBM (Dense Bituminous Mecadam)
Date of test	:	19-07-2017

The results of the tests conducted on the Dense Bituminous Macadam mix sample are as follow

Sl.No	Particulars of observations	TEST 1	TEST 2	Secified limits as per MORTH specification table 500-11
1	Marshal Stability at 60°C, KN	11.59	11.42	9KN(Min)
2	Marshal flow at 60°C, mm	3.54	3.87	2-4
3	Percent air Voids	4.56	4.17	3-5
4	Percent Voids in mineral Aggregate(VMA %)	14.54	14.76	13-15
5	Percent Voids filled with Bitumen(VFB %)	68.98	70.28	65-75
6	Density, g/cc	2.42	2.40	–

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com
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TEST RESULTS OF GRADATION FOR DBM
(IS 2386:(Part 1) 1963 (RA2011)

Lab ID	:	**CP-RW-2017-08-23-01** **Date: 24-08-2017**
Customer	:	Assistant Executive Engineer, Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
Address	:	Yelahanka Satellite Town Sub Division, BBMP, Bangalore.
Project Name	:	Improvements and Asphalting of Roads and Drains at Santhosh Nagara in Ward No.03
Agency	:	Technical Manager (west), KRIDL, BBMP, Bangalore.
Customer Reference	:	BBMP/EE(YNK.D)/W.O/85/2017-18
Source of Sample	:	Sample supplied by Agency
Date of Receipt	:	23-08-2017
Sample ID No	:	2017-08-23-01/01
Type of Mix	:	DBM (Dense Bituminous Macadam)
Date of test	:	23-08-2017

Sl.no	Description	Index	Trail 1	Trail 2
1	Weight of the Sample	A	500	500
2	Weight of the sample After extraction	B	479	477
3	Bitumen percentage	$\frac{A-B}{A} \times 100$	4.2	4.6
4	Average percentage	%	4.4	

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Authorized Signatory
Quality Manager

M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com
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Lab ID
Sample ID No : CP-RW-2017-08-23-01 **Date: 24-08-2017**
: 2017-08-23-01/01

AFTER EXTRACTION(Trail-1)

Weight of Sample(gm) : 479

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	3	3	0.63	99.4	90-100
19	47	50	10.44	89.6	71-95
13.2	46.5	96.5	20.15	79.9	56-80
4.75	134	230.5	48.12	51.9	38-54
2.36	60	290.5	60.65	39.4	28-42
0.3	95	385.5	80.48	19.5	7-21
0.075	65	450.5	94.05	5.9	2-8

AFTER EXTRACTION(Trail-2)

Weight of Sample(gm) : 477

IS Sieve Size(mm)	Weight Retained (gm)	Comulative Weight Retained (gm)	Comulative % of Retained	Comulative % of Passing	Specification Limits as per MORTH specification Table 500-10(grading -2)
37.5	0	0	0	100.0	100
26.5	4	4	0.84	99.2	90-100
19	75	79	16.56	83.4	71-95
13.2	136	215	45.07	54.9	56-80
4.75	75	290	60.80	39.2	38-54
2.36	45	335	70.23	29.8	28-42
0.3	63	398	83.44	16.6	7-21
0.075	50	448	93.92	6.1	2-8

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R KARTHIK RECHAN
Authorized Signatory
Quality Manager

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M : 9972924526 | Tel : +91 80 23444801 | e : rechan6630@yahoo.co.in, civilproexperts@gmail.com